UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,665	12/02/2003	Jonathan Tang	M61.12-0561	5079

27366 7590 05/28/2009

WESTMAN CHAMPLIN (MICROSOFT CORPORATION)
SUITE 1400
900 SECOND AVENUE SOUTH
MINNEAPOLIS, MN 55402

EXAMINER	
BUCKINGHAM, KELLYE DEE	

ART UNIT	PAPER NUMBER
2165	

MAIL DATE	DELIVERY MODE
05/28/2009	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/725,665	TANG ET AL.	
	Examiner	Art Unit	
	KELLYE D. BUCKINGHAM	2165	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 February 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This Office Action is in response to applicant's communication filed May 25, 2009 in response to PTO Office Action dated November 25, 2008. The Applicant's remarks and amendments to the claims and/or the specification were considered with the results that follow.

2. Claims 1-40 have been presented for examination in this application. In response to the last Office Action, claims 1, 17, 28-34 and 36 have been amended. Claims 37-40 have been cancelled, there are no added claims. As a result, claims 1-36 are now pending in this application.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Williamson et al. US Patent 6,704,744 in view of Bakalash et al. 7,315,849.

Regarding claim 1, Williamson et al a computer-implemented method for enabling a user to extract information from business data, comprising:

automatically identifying, **using a processor that is a functional component of the computer (col. 5, lines 30-50, general purpose computer),** a data navigation path from a collection of relationships between individual sets of data comprised within the business data (col. 3, lines 60-67 and col. 4, lines 1-5, relationships mapping between two or more entities); and

providing the data navigation path to the user so as to enable the user to move from a first data set to a related second data set (col. 4, lines 6-53, disclosing paths between more then one tables and their relationships),

however he does not teach **wherein at least one of the first and second data sets comprises aggregated data stored in an on-line analytical processing (OLAP) data warehouse.**

Bakalash teach wherein at least one of the first and second data sets comprises aggregated data stored in an on-line analytical processing (OLAP) data warehouse (col. 3, lines 3-60, aggregated data stored).

It would be obvious to one of ordinary skill in the art to include the teaching of Bakalash et al. enterprise wide data warehouse with integrated data aggregation engine into Williamson et al. method and apparatus for mapping objects to multiple tables of a database because Bakalash et al. systems provide for improved time to aggregate data within a MDD structure, and have advantages when carrying out joining and aggregations operations (col. 12, lines 5-25).

Regarding claim 2, Williamson et al. teach the method of claim 1, wherein the method further comprises receiving from the user a data context related to the first set of data (Fig. 4, Employee table will be considered the first set of data)

Regarding claim 3, Williamson et al. teach the method of claim 2, wherein the receiving from the user step is the first step (Refer to Fig. 3, to design a DBMS).

Regarding claim 4, Williamson et al. teach the method of claim 2, wherein automatically identifying a data navigation path further comprises:

providing the data context to a provider that is associated with a first type of data navigation (col. 4, lines 6-53, disclosing paths between more then one tables and their relationships);

receiving from the provider a link representing a data navigation path that is of the first type of data navigation (Refer to Fig. 7, where relationship comes from at least two entities in a model and the object within the model whereas the relationship includes a mapping or link between the two tables); and

wherein providing the data navigation path to the user comprises providing said link to the user (col. 10, lines 19-39, the join between two or more tables).

Regarding claim 6. Williamson et al teach the method of claim 2, wherein providing the data context to a provider comprises providing the data context to a provider that is associated with navigation from aggregated data to related transaction data (col. 3, lines 60-67 and col. 4, lines 1-5, relationships mapping between two or more entities).

Regarding claim 8, Williamson et al. teach the method of claim 2, wherein providing the data context to a provider comprises providing the data context to a provider that is associated with navigation from transaction data to related aggregated data (col. 3, lines 60-67 and col. 4, lines 1-5, relationships mapping between two or more entities).

.**Regarding claim 10**, Williamson et al. teach the method of claim 2, wherein providing the data context to a provider comprises providing the data context to a provider that is associated with navigation between two data units that share a dimension (Refer to Fig. 7, where relationship comes from at least two entities in a model and the object within the model whereas the relationship includes a mapping or link between the two tables).

Regarding claim 13, Williamson et al tech the method of claim 2, wherein providing the data context to a provider comprises providing the data context to a provider that is associated with a logic association type of navigation (col. 3, lines 60-67 and col. 4, lines 1-5, relationships mapping between two or more entities).

Regarding claim 14, Williamson et al. teach the method of claim 2, wherein providing the data context to a provider comprises providing the data context to a provider that is associated with navigation between two data collections that the user has identified as related (Refer to Fig. 7, where relationship comes from at least two entities in a model and the object within the model whereas the relationship includes a mapping or link between the two tables).

Regarding claim 15, Williamson et al. teach the method of claim 1, wherein providing the data navigation path to the user comprises providing a traversable data navigation link to the user (col. 11, lines 4-35, traversal path)

Regarding claim 16, Williamson et al. teach the method of claim 2, wherein providing the data navigation path to the user comprises providing the user with a collection of data navigation links that each represent a data navigation path that is available based on the received data context (Refer to Fig. 7, where relationship comes from at least two entities in a model and the object within the model whereas the relationship includes a mapping or link between the two tables), wherein one of the data navigation links corresponds to the provided data navigation path (col. 4, lines 6-53, disclosing paths between more then one tables and their relationships).

Regarding claim 17, Williamson et al. teach a system for enabling a user to extract information from business data, the system comprising:

a plurality of data navigation providers each associated with a specific type of navigation (col. 3, lines 60-67 and col. 4, lines 1-5, relationships mapping between two or more entities);

a navigation service layer configured to transmit a navigation service request to one or more of the data navigation providers (col. 4, lines 6-53, disclosing paths between more then one tables and their relationships); and

a metadata service for providing the plurality of data navigation providers with access to a metadata store (Refer to Fig. 7, where relationship comes from at least two entities in a model and the object within the model whereas the relationship includes a

mapping or link between the two tables), each data navigation provider being configured to respond to a received data navigation request by **accessing** interacting with the metadata service **with a processor and processing metadata from the metadata store to identify at least one data navigation path between a first data set and a related second data set wherein at least one of the first and second data sets comprises aggregated data stored in an on-line analytical processing (OLAP) data warehouse; and**

an output interface device displaying to the user the identified data navigation paths (col. 9, lines 20-57, display a current model and allow model to be updated, examiner interpret path to be traversal to resolve relationships to flatten attributes and relationships).

However Williamson does not teach data navigation path between a first data set and a related second data set wherein at least one of the first and second data sets comprises aggregated data stored in an on-line analytical processing (OLAP) data warehouse.

Bakalash teach data navigation path between a first data set and a related second data set wherein at least one of the first and second data sets comprises aggregated data stored in an on-line analytical processing (OLAP) data warehouse (col. 3, lines 3-60, aggregated data stored).

It would be obvious to one of ordinary skill in the art to include the teaching of Bakalash et al. enterprise wide data warehouse with integrated data aggregation engine into Williamson et al. method and apparatus for mapping

objects to multiple tables of a database because Bakalash et al. systems provide for improved time to aggregate data within a MDD structure, and have advantages when carrying out joining and aggregations operations (col. 12, lines 5-25).

Regarding claim 18, Williamson et al. teach the system of claim 17, wherein said at least one data navigation path corresponds to the received data navigation request (col. 3, lines 60-67 and col. 4, lines 1-5, relationships mapping between two or more entities).

Regarding claim 19, Williamson et al. teach the system of claim 17, wherein said at least one data navigation path corresponds to a data context provided with the received data navigation request (col. 3, lines 60-67 and col. 4, lines 1-5, relationships mapping between two or more entities).

Regarding claim 20, Williamson et al. teach the system of claim 17, wherein each data navigation provider is further configured to respond to provide the navigation service layer with one or more navigation links that correspond to said at least one data navigation path (Refer to Fig. 7, where relationship comes from at least two entities in a model and the object within the model whereas the relationship includes a mapping or link between the two tables).

Regarding claim 21, Williamson et al. teach the system of claim 20, wherein the navigation service layer is further configured to provide the user with an aggregated collection of navigation links that represent navigation links collected from multiple data

navigation providers (col. 3, lines 60-67 and col. 4, lines 1-5, relationships mapping between two or more entities).

Regarding claim 22, Williamson et al. teach the system of claim 21, wherein the navigation service layer is further configured to receive a selection command from the user, the selection command corresponding to a selected navigation link (Refer to Fig. 7, where relationship comes from at least two entities in a model and the object within the model whereas the relationship includes a mapping or link between the two tables).

Regarding claim 23, Williamson et al. teach the system of claim 22, wherein the navigation service layer is further configured to transmit the selection command to a corresponding one of the data navigation providers (col. 4, lines 6-53, disclosing paths between more then one tables and their relationships).

Regarding claim 25, Williamson et al. teach the system of claim 24, wherein the data retrieved from the data collection represents a traversal of the selected navigation link and is returned to the user through the navigation service layer (col. 11, lines 4-35, traversal path).

Regarding claim 28, Williamson et al. teach the system of claim 17, wherein at least on of the plurality of data navigation providers is associated with navigation from aggregated data to related transaction data (col. 3, lines 60-67 and col. 4, lines 1-5, relationships mapping between two or more entities).

Regarding claim 29, Williamson et al. teach the system of claim 17, wherein at least on of the plurality of data navigation providers is associated with navigation from

transaction data to related aggregated data (col. 3, lines 60-67 and col. 4, lines 1-5, relationships mapping between two or more entities).

Regarding claim 31, Williamson et al. teach the system of claim 17, wherein at least on of the plurality of data navigation providers is associated with navigation between two data units that share a dimension (Refer to Fig. 7, where relationship comes from at least two entities in a model and the object within the model whereas the relationship includes a mapping or link between the two tables).

Regarding claim 34, Williamson et al. teach the system of claim 17, wherein at least on of the plurality of data navigation providers is associated with navigation between two data collections that the user has identified as related (Refer to Fig. 7, where relationship comes from at least two entities in a model and the object within the model whereas the relationship includes a mapping or link between the two tables).

Regarding claim 35, Williamson et al. teach the system of claim 17, wherein the navigation service layer is further configured to support at least one successfully registered additional data navigation provider (col. 4, lines 6-53, disclosing paths between more then one tables and their relationships); wherein the successfully registered additional data navigation provider becomes one of the plurality of data navigation providers (col. 4, lines 6-53, disclosing paths between more then one tables and their relationships).

Regarding claim 36, Williams et al. teach a system for enabling a user to extract information from business data, the system comprising:

a plurality of data navigation providers each associated with a specific type of navigation (col. 3, lines 60-67 and col. 4, lines 1-5, relationships mapping between two or more entities);

a metadata service for providing the plurality of data navigation providers with access to a metadata store so that the data navigation providers are able to generate data navigation links based on information in the metadata store **using a processor (col. 5, lines 30-50, general purpose computer)** (Refer to Fig. 7, where relationship comes from at least two entities in a model and the object within the model whereas the relationship includes a mapping or link between the two tables);

a navigation service layer configured to transmit a navigation service request to one or more of the data navigation providers to receive **at least one** data navigation links from the plurality of data navigation providers, **each data navigation link corresponding to a path between a first data set and a related second data set, wherein at least one of the first and second data sets comprises aggregated data stored in an on-line analytical processing (OLAP) data warehouse;** to present data navigation links to the user for selection (col. 4, lines 6-53, disclosing paths between more then one tables and their relationships); to receive a user selection of a data navigation link , and to transmit the user selection to one or more of the plurality of data navigation providers (col. 4, lines 6-53, disclosing paths between more then one tables and their relationships);

a data service provider that is associated with a data collection and configured to interact with a data navigation provider so as to retrieve data from the data collection

based on the user selection, at least some of the data retrieved from the data collection being provided to the user as a response to the user selection of a data navigation link; **and**

an output interface device displaying to the user the data navigation links and the provided data (col. 9, lines 20-57, display a current model and allow model to be updated, examiner interpret path to be traversal to resolve relationships to flatten attributes and relationships).

However he does not teach corresponding to a path between a first data set and a related second data set, wherein at least one of the first and second data sets comprises aggregated data stored in an on-line analytical processing (OLAP) data warehouse.

Bakalash teach corresponding to a path between a first data set and a related second data set, wherein at least one of the first and second data sets comprises aggregated data stored in an on-line analytical processing (OLAP) data warehouse (col. 3, lines 3-60, aggregated data stored).

It would be obvious to one of ordinary skill in the art to include the teaching of Bakalash et al. enterprise wide data warehouse with integrated data aggregation engine into Williamson et al. method and apparatus for mapping objects to multiple tables of a database because Bakalash et al. systems provide for improved time to aggregate data within a MDD structure, and have advantages when carrying out joining and aggregations operations (col. 12, lines 5-25).

Response to Arguments

5. Applicant's arguments with respect to claims 1-36 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KELLYE D. BUCKINGHAM whose telephone number is (571)270-1756. The examiner can normally be reached on Monday- Friday, 7:30-5:00 EST alt Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christian Chace can be reached on 571-272-4190. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

May 21, 2009

/K. D. B./
Examiner, Art Unit 2165

/Neveen Abel-Jalil/

Supervisory Patent Examiner, Art Unit 2165